

Appendix 1: Implementing Teaching Standards

The following standard are used in connection with this mathematics problem solving curriculum unit:

Common Core Mathematics Content Standards

5.NF.A.1: Students will add and subtract fractions with unlike denominators by replacing fractions with equivalent fractions with unlike denominators. This unit teaches students to do this using visual representations.

5.NF.A.2: Student solve word problems with addition and subtraction of fractions. Students will primarily be working toward this goal in planning their culminating project as they will be required to add portions together within a whole area.

5.NF.B.4.B: Student multiply whole numbers by a fraction and a fraction by a fraction by finding the area of a rectangle with fractional side lengths. This standard is addressed during the multiplying fractions part of the unit.

5.NF.B.6: Students multiplying fractions and mixed numbers using visual models or equations. In this unit, students will primarily be using the area model as the visual representation how to use the distributive property to find the products of mixed numbers.

5.NF.B.7: Student divide unit fractions by whole number and whole numbers by unit fractions using visual model. This standard will provide students with another example of how a rectangle can be used to represent operations with fractions.

Common Core Standards for Mathematical Practice

MP.1: Students make sense of problems and persevere in solving them. Throughout the unit, students will be required to apply their understanding of objectives to real world problems and work through tolerating confusion and difficulty that may arise.

MP.4: Students model with mathematics. This standard is the primary focus of the unit. Students will be required to model all of their work using a rectangle for the visual representation.

MP.5: Students use appropriate tools strategically. During the unit, the rectangle will be the tool that students need to use, however they will be required to determine the appropriate strategy to manipulate the rectangle to reach the intended solution.

MP.6: Students attend to precision. As students work through the problems and activities in this unit, they will be require to find precise areas and create precise representations of problems in order to demonstrate understanding of the content objectives.